

# A Test of the Institutionally-Induced Equilibrium Hypothesis: On the Limited Fiscal Impact of Two Celebrity Governors

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## **Abstract**

The governorships of Jesse Ventura of Minnesota's and Arnold Schwarzenegger of California provide two natural experiments for testing the institutionally induced stability hypothesis. Both men rose to their governorships through unique career and electoral paths that would reduce the stabilizing effects of partisan commitments and electoral competition, which would tend to increase their impact on public policy. Nonetheless, our evidence suggests that despite their unique backgrounds and paths to office neither governor had a statistically significant impact on their state's expenditures or deficits.

**Keywords:** Government Experience, Natural Experiment, Outsidership, Governor, Fiscal Policy, Minnesota, Jesse Ventura, California, Arnold Schwarzenegger

**JEL codes:** H71, H72, H77

## Introduction

This paper explores the fiscal effects of two unique U.S. governors, Jesse Ventura of Minnesota and Arnold Schwarzenegger of California. Both rose to office in unorthodox ways and neither had significant political experience before being elected to high office. Both were relatively well-known entertainment personalities before winning office and both were famous for making “outrageous” comments both before and while in office.<sup>1</sup> In this respect, they may be regarded as precursors to President Donald Trump, who also followed an unusual path to high office, lacked political experience, and is known for making comments that would be regarded as impolite or impolitic in many circles. Our main interest is the extent to which American political institutions, with their complex systems of “checks and balances” tend to reduce or eliminate the effects of changes in executive officials.

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<sup>1</sup> Arnold Schwarzenegger was born in 1947 in Austria and is a body builder and well known actor. He began lifting weights at the age of 15 and continued with great success in international body building and weight lifting events including Mr. Olympics competitions which he won 7 times. He then transitioned to movie acting beginning with Conan the Barbarian in 1982 and continuing in a number of heroic roles to which his physique contributed to his image and performances. He was elected governor of California in 2003 running as a republican in a recall election, the only California governor so elected. Because of his prominence as an action hero, the importance of California, and some of his comments while governor (as with “girlie men”) his governorship received considerable coverage during his time in office. It was his first and only elective office. He won reelection in 2006 (his first term being shorter than normal because it was the result of a recall election). He returned to acting and producing films after leaving the governorship.

Jessie Ventura was born in 1951 and is a retired professional wrestler—a sport that is highly choreographed and dramatized. His “ring name” was “the Body, Ventura” in that entertainment venue (1975-86). After that career, he became an announcer for professional wrestling matches and subsequently host of a radio talk show in Minnesota. He was elected Mayor of Brooklyn Park Minnesota from (1991-95) and elected to governor of Minnesota in 1998, running a low-budget grass roots campaign that urged voters “not to vote for politics as usual.” He won as a third-party candidate of the “reform party.” He did not run for reelection in 2003 after his term was up. He was the only third-party candidate to be elected to governorship in the past 50 years. (A number of governors have been independents, meaning not formally aligned with a political party during their term of office, but all were previously active members of one of the two major political parties, as with Crist (Republican), King (Democrat), Weiker (Republican), and Hickel (Republican).)

Both governors were entrepreneurs and entrepreneurial, but neither were students of politics or public policy. Both rose to office in unique ways that could not have been anticipated a year or two before they happened.

U. S. state governments are relatively unusual in that they have significant discretion over tax, expenditure, and regulatory policy and are grounded in separate state constitutional documents that characterize their core procedures and constraints. These generally follow the template of the national constitution, with an executive, bicameral legislature, supreme court, and bill of rights, although there are differences in length that mostly reflect differences in efforts to constitutionalize various public policies.<sup>2</sup> State governors have significant influence over state fiscal decisions, but as in the national government, fiscal policies are joint products of the two chambers of the state legislature and the governor's veto power. There are also state level political parties and elections, and state level bond markets and credit ratings. Although there are significant transfers from the national government to the state government, the states raise most of their own revenues through state level income, sales, excise, and fees.<sup>3</sup>

Our main interest in this study is the extent to which state level checks and balances tend to minimize the effects of changes in the individuals holding the post of governorship. The usual approach to do so empirically would be to adopt an international perspective and attempt to determine how differences in federal institutions affect a nation's policies. An enormous body of international and intra-national empirical research supports the contention that institutions matter in the sense that they affect the kinds of policies adopted by a national government.<sup>4</sup> Our approach is the reverse of the normal one in that we hold institutions constant and attempt to determine

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<sup>2</sup> The exception to that rule is Nebraska, which has a unicameral legislature. An interest group explanation for differences in the lengths of state constitutions is provided in Crain and Tollison (1979).

<sup>3</sup> States receive from 20-45% of their revenues from the federal government with an average of just over 31.5% and a median of about 33% (taxfoundation.org/maps). Much of the revenue is earmarked for particular services such as Medicaid, education, and highways. These funds are regarded to be exogenous to state budgets for the purposes of this paper, although some may affect the distribution of state spending, governors have relatively little influence on the National government's decisions to allocate funds to programs or projects within particular states.

<sup>4</sup> This literature arguably began with Grier and Tullock (1989) and Congleton (1992) who demonstrated that democracies and dictatorships had systematic patterns of economic development and public policy, and continued through Knack and Keefer (1995) and Perrson, Roland, and Tabellini (2000) and continues to the present. A useful metastudy of the effects of democratic institutions was undertaken by Doucouliagos and Ulabasoglu (2008) who conclude that democracies have indirect effects on growth through policy decisions that affect education, inflation, and economic freedom.

whether “shocks” in the forms of very unusual governors affect the fiscal policies of the states governed.

Our focus on governors also brings our project into contact with a more recent research program on leadership that focuses on the characteristics of national leaders rather than institutions. That literature attempts to determine whether leaders with particular characteristics such as advanced education and job experience or who have come to office in unusual ways tend to be more or less influential leaders than the average person holding similar offices in similar institutional circumstances. The latter is, of course, difficult to appraise in international studies, because even relatively “simple” indicators such as years of education or graduated from university are associated with quite different levels of academic achievement as rankings of universities and high schools within and among countries clearly indicate. However, international pooled time series and panel studies do provide possibilities for the use of estimators requiring large samples to exhibit what might be regarded as average statistical properties.<sup>5</sup>

Our approach differs from the usual one in the leadership literature in that rather than attempting to identify particular characteristics that make office holders more or less likely to be influential, we identify two very unusual men who rose to office in very unusual ways and attempt to see whether they were more or less influential than the average governor. Either result would imply that leaders matter. We do so using a number of estimation methods that can reveal such discontinuities including a new synthetic control method invented for this paper. In general, we find no robust evidence of discontinuities generated by the unusual governors focused on, although we do find evidence that political culture varies among the subregions of the United States.

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<sup>5</sup> Influential studies of the impact of leaders and leadership characteristics on public policies include, Dreher et al. (2009) who find that past careers as entrepreneurs are more important for policy reforms than is the educational attainment of national leaders, Besley, Montalvo, and Reynal-Querol (2011), who find a link between economic growth and the educational attainment of leaders, Congleton and Zhang (2013) who find that the effectiveness of U. S. Presidents as economic stewards were improved by education and particular career paths, and Dal Bó et al. (2017) who find that leaders (in Sweden) tend to be better educated and better leaders than the average Swede. (That elected leaders tend to be smarter than the average voter is a conclusion that would not have surprised Aristotle who regarded classical Greek versions of representative democracy to be forms of aristocracy. Many of these regularities are thus longstanding “facts” concerning leadership within political theory, although the statistical affirmation of these relationships is new.)

## Literature Review and Background

Our empirical analysis is grounded in rational choice models of political equilibria. The first generation of rational-choice models of democratic policy formation implied that the individuals holding high office tend to have little effect on public policies. In the most straightforward electoral models, candidates converge to near identical platforms and are assumed to implement their promises after the election is won (Downs 1957, Coughlin and Nitzan 1981). In the most straightforward interest group models, it is the efforts of politically active groups rather than elected officials that matter. Organized groups compete to influence voters, candidates, bureaucrats, and public policy. And public policies are ultimately determined by the balance of those efforts. In interest group models, shifts in relative influence ultimately determine policy, rather than changes in the persons holding high office, whose policies reflect those pressures rather than their own policy agendas. In relatively stable settings, that balance tends to produce stable vector of policies at which the marginal influence of opposing groups counter balance one another (Tullock 1980, Becker 1983). What is significant about these two literatures for the purposes of this paper is that under both models, public policies are largely beyond the influence of any single government official.<sup>6</sup>

These early models of political equilibria have been challenged by several second and third generation scholars who demonstrate that officeholders may have significant discretion over policies even when voters ultimately determine outcomes or interest groups have significant influence over public policy. There are, for example, analyses grounded in Arrow's (1951/2012) impossibility theorem demonstrating that individual office holders can have major impacts on public policy if they have agenda control (McKelvey 1976). More recent papers suggest that electoral competition is not as binding on candidate choices as the first models implied. The extent of convergence in candidate platforms may, for example, be limited by differences in candidate valence or ability in even very competitive elections (Grosseclose 2001) or candidates may be less

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<sup>6</sup> The idea that institutions and their associated bargaining and oversight produce stable public policies did not, of course, end with the first-generation papers. Shepsle and Weingast (1981), for example, argue that the micro-organization of the U.S. legislature tends to stabilize coalitions within Congress and allow long term bargains to be worked out and implemented. Congleton (1982) notes that the bureaucracy's discretion over public policy further dampens the effects of policy shifts. Such stabilizing effects are taken for granted in most papers that attribute significant effects to constitutional architecture.

pragmatic than assumed in the early models. Besley and Coate (1997), for example, suggest that candidate positions do not shift during elections, but simply reflect their own honest (and inflexible) assessments of ideal policies, rather than those of the median voter or pivotal interest groups.

Moreover, even with full convergence in party platforms, differences in the competence of those elected to high office can affect policy outcomes insofar as better prepared candidates are able to more effectively implement the same platform (Besley and Reynal-Querol 2011, Congleton and Zhang 2013). More talented high officials may be more persuasive or simply understand policy alternatives better than others. It is also possible that voters who recognize their own ignorance about public policy may want their elected officials to exercise their own discretion and judgement over public policies. In such case the expected use of that discretion will be one of the dimensions in which voters assess the relative quality of candidates (Brennan and Hamlin 2000).

There are also interest group models in which an elected or appointed official's assessments of interest group influence or promised support have effects on public policy (Pelzman 1976, Grossman and Helpman 1994). If so, changes in the types of individuals elected to high office or appointed to bureaus and agencies will have effects on the policies and rules adopted. Such appointments, thus, provide a mechanism through which a nation or state's chief executive might be able to affect public policies without significant legislative oversight. Such effects will be systematic in an interest group model if the candidates elected or appointed to high office differ in their openness to particular lines of argument or are more or less beholding to the support of particular interest groups. In more sophisticated models, electoral pressures bound the domain of appointments through legislative oversight, but sufficient discretion remains that the particular individuals holding high office may have significant indirect effects on the policies adopted and implemented through their powers of appointment.

This paper attempts to shed light on the relative merits of the "institutionally induced equilibrium" and the "office holders matter" hypotheses by exploring the extent to which two very unlikely state governors had effects on their states' fiscal policies. The two governors focused on can be regarded as natural experiments insofar as very unusual men were placed at the head of two quite different state governments through very unusual processes. Both men followed paths to governorship that began in show business rather than politics, both were relatively well known in

their states but not for their political views, and so less likely to be constrained by past promises to interest groups, parties, or electoral pressures than candidates whose path to high office followed more conventional paths. Jessie Ventura became governor of Minnesota as a third-party candidate with 36.9% of the vote, winning office against mainstream republican and democratic candidates. Arnold Schwarzenegger won a 2003 special recall election—the only one to do so in California history—in which there were many candidates. Schwarzenegger’s rivals noted his inexperience and lack of preparation for governance. He nonetheless won office with relatively strong support (48% of the vote). In neither case, could these governors be considered “groomed” for high office or known for their party loyalty, positions on public policy, or competence as policymakers.<sup>7</sup>

If particular officeholders matter in the context of American political institutions, it should be most evident in cases in which unusual men rise to high office through unconventional means. If knowledge of public policy and state politics matters, their terms of office should be less consequential than that of the average governor. If their lack of commitments to party leaders and interest group matter, their unusual freedom of action should make their terms of office more consequential than the average governors. In either case, their terms as governor should be exceptional. If, however, America’s governing institutions tend to produce stable political equilibria, their terms of office should be unexceptional.

## **Models, Data, and Results**

We use three models of state fiscal policies and four regression discontinuity estimation strategies to determine whether these two unusual governors had statistically significant effects on their state’s fiscal policies. We focus on three relatively lean models of state expenditures. A pure inertial model characterizes state expenditures as a simple autoregressive process generated by stable

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<sup>7</sup> This is not to say that these men had absolutely no political experience. Ventura had been elected and served as the mayor of Brooklyn Park Minnesota, a city of 70,000 residents. Schwarznegger had served as chairman of California’s Council on Physical Fitness. However, it is clear that they lack the usual connections with their state political parties and experience in statewide offices that most governors have.

patterns of interest group influence, forward looking voters, and stable economic and political institutions.<sup>8</sup>

$$G_t = \alpha + \beta_1 G_{t-1} + \beta_2 Outsider_t + \beta_3 Outsider_t \times G_{t-1} + \mu_t \quad (1)$$

$G_{t-1}$  is the lagged value of the fiscal variable of interest.  $Outsider_t$  is a binary variable that takes the value 1 if the state has an outsider governor in year  $t$  and the value 0 otherwise. Jesse Venture was Governor of Minnesota from January 4, 1999 to January 6, 2003, and Arnold Schwarzenegger was Governor of California from November 13, 2003 to January 3, 2011. The “Outsider Governor” binary variable for Minnesota has value 1 from 1999 to 2002 and is 0 otherwise. It has the value 1 from 2004 to 2010 and is 0 otherwise for California. An outsider gubernatorial effect is a regime change in the autoregressive process, which requires  $\beta_2 \neq 0$  and/or  $\beta_3 \neq 0$ .

The second model assumes that fiscal decisions reflect median voter demands. We characterize the reduced form median voter’s demand as a linear function of his or her income in the previous period,  $Y_{t-1}$ . The lag reflects state budget cycles. We assume that voters have similar tastes, which implies that median voter demand can be characterized as a function of median voter income and unmodeled random events during the year that affect turnout and voter expectations.<sup>9</sup>

$$G_t = \alpha + \beta_1 Y_{t-1} + \beta_2 Outsider_t + \beta_3 Outsider_t \times Y_{t-1} + \mu_t \quad (2)$$

In the median voter model, an outsider effect systematically changes the government’s response to pivotal voter demands, which again requires  $\beta_2 \neq 0$  and/or  $\beta_3 \neq 0$ .

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<sup>8</sup> Autoregressive models have previously been shown to explain most but not all of the path of national fiscal policies in the United States. See, for example, Atesoglu and Congleton (1982).

<sup>9</sup> This model may seem a bit simplistic, but consider the following structural representation of median voter demand for government service  $G$ . Each voter maximizes a utility function  $U = u(G, X)$  where  $G$  is government service and  $X$  is their private good consumption. Because turnout rises with income, the median voter’s income can be approximated with average income,  $Y^A$ . The median voter’s private constraint is  $X = [1-t(G, N, Y^A)]Y^A$  and her public constraint is  $c(G) = tNY^A$  where  $N$  is the adult state population,  $c(G)$  is the cost of public services, and  $t$  is the average tax rate. The tax rate will be a function of service level, population, and average income. Maximizing utility generates a reduced form demand for government services of the form  $G_j^* = \gamma(Y_j^A, N_j)$  for state  $j$  with population  $N_j$ , and will be approximately  $(G_j^*/N_j) = g(Y_j^A)$  for per capital government expenditures. Treating  $G$  as a vector of services would not change the variable(s) in the reduced form. State fixed effects account for other differences in state demographics that might affect the preferences of the median voter.



Our third model of policy formation augments the median voter model with institutional variables that reflect the division of legislative authority and possible partisan effects. In cases in which full convergence in candidate platforms fails to take place, differences among candidate platforms are at least partially caused by advantages that parties realize by maintaining a stable “brand” or reputation for policy positions that systematically differ from those of other parties.<sup>10</sup> Party affiliation thus tends to affect bargaining that take place within state legislatures and between the governor and the legislature. In a median voter model, such partisan effects are affected by random events that affect turnout, voter expectations, and the unobservable partisan dispositions of the persons running for office.

$$G_t = \alpha + \beta_1 Y_{t-1} + \beta_2 Outsider_t + \beta_3 Outsider_t \times Y_{t-1} + \beta_4 GovernorRepublican_t + \beta_5 Senate_t + \beta_6 House/Assembly_t + \mu_t \quad (3)$$

GovernorRepublican<sub>t</sub> takes the value 1 if the governor is a republican and 0 otherwise. Senate<sub>t</sub> has the value 1 if the party in control of the senate is the same as the party of the governor. It is 0 otherwise. The House/Assembly<sub>t</sub> takes the value of 1 if the lower chamber is controlled by the same party as that of the state governor in year t, and it is 0 otherwise. An outsider gubernatorial effect beyond that associated with party and divided governance would be indicated by a systematic changes the government’s response to pivotal voter demands, which again requires  $\beta_2 \neq 0$  and/or  $\beta_3 \neq 0$ .

Data for the statistical analysis were collected from several sources. Median voter income is proxied with per capita real gross state products are from the Bureau of Economic Analysis (BEA).<sup>11</sup> We use of average rather than median income because of the relatively higher turnout of high income voters and because average income data is readily available. State level expenditure per capita and state level taxes per capita are from the Data Query System (DQS) of the Urban

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<sup>10</sup> Such partisan effects are consistent with electoral competition models that include roles for political parties. In partisan models, parties create and maintain distinct policy agendas to retain their base of supporters (Duveger 1963, Alesina 1988, Grofman and Lijphart 2003). In such cases, one would expect to observe partisan effects but not office-holder effects, insofar as parties select their candidates for high office.

<sup>11</sup> <https://bea.gov/index.htm>

Institute.<sup>12</sup> The governor and legislature information are collected from various online open sources. The websites include but are not limited to: the Minnesota State Legislature official website<sup>13</sup>, the California State Legislature official website<sup>14</sup>, California State Capitol Museum<sup>15</sup>, Ballotpedia the online encyclopedia of American politics and elections<sup>16</sup>, and related articles on Wikipedia. The time-period investigated is from 1987 to 2013. All nominal values are converted to 2012 constant dollars. Summary statistics are shown in Table 1.

**Table 1: Descriptive Statistics (1987-2013, in 2012 Constant US dollars)**

Variable	Number of Observations	Mean	Std. Dev.	Minimum	Maximum
MN RGDP Per Capita	27	48255.51	6796.85	37549.79	56152.53
MN Expenditure Per Capita	27	6102.59	1086.63	4422.00	7626.00
MN Deficit Per Capita	27	2748.22	741.42	1584.00	4164.00
MN Outsider Governor Dummy	27	0.15	0.36	0.00	1.00
MN Republican Governor Dummy	27	0.59	0.50	0.00	1.00
MN Democrat Governor Dummy	27	0.26	0.45	0.00	1.00
MN Senate Dummy	27	0.19	0.40	0.00	1.00
MN House Dummy	27	0.33	0.48	0.00	1.00
CA RGDP Per Capita	27	49544.07	6647.96	40714.18	58858.56
CA Expenditure Per Capita	27	6124.26	1113.76	4613.00	7761.00
CA Deficit Per Capita	27	3173.89	865.02	1966.00	4498.00
CA Outsider Governor Dummy	27	0.26	0.45	0.00	1.00
CA Republican Governor Dummy	27	0.70	0.47	0.00	1.00
CA Democrat Governor Dummy	27	0.30	0.47	0.00	1.00
CA Senate Dummy	27	0.30	0.47	0.00	1.00
CA Assembly Dummy	27	0.37	0.49	0.00	1.00
10 States RGDP Per Capita	270	44229.04	8400.29	26305.93	72495.71
10 States Expenditure Per Capita	270	5409.87	1163.09	3196.00	9132.00
10 States Deficit Per Capita	270	2890.76	855.86	1447.00	5430.00
10 States Outsider Governor Dummy	270	0.04	0.20	0.00	1.00

<sup>12</sup> <http://slfdqs.taxpolicycenter.org/pages.cfm>

<sup>13</sup> <https://www.leg.state.mn.us/>

<sup>14</sup> <http://www.legislature.ca.gov/>

<sup>15</sup> <http://www.capitolmuseum.ca.gov/>

<sup>16</sup> [https://ballotpedia.org/State\\_Legislatures](https://ballotpedia.org/State_Legislatures)

10 States Republican Governor Dummy	270	0.56	0.50	0.00	1.00
10 States Democrat Governor Dummy	270	0.43	0.50	0.00	1.00
10 States Senate Dummy	270	0.51	0.50	0.00	1.00
10 States House/Assembly Dummy	270	0.56	0.50	0.00	1.00

## Single State Estimates of Fiscal Policies

Table 2 reports estimates of the inertial, simple median voter, and institution-augmented median voter models of real per capita state government expenditures for Minnesota and California. Columns 1 and 4 report the inertial models for Minnesota and California, respectively. Columns 2 and 5 report the median voter model estimates, and Columns 3 and 6 report the institution-augmented median voter model estimates. All three models account for most of the variation in per capita expenditures in the two states. Only one of the six estimates supports the “governor matters” hypothesis. The median voter model for California exhibits governor specific effects that are significant at the 10% level. The other five estimates imply that there are no discontinuities in per capita state expenditures or in the responsiveness of government that can be attributed to the presence of an outsider governor, which is consistent with a strong form of the institutionally induced equilibrium hypothesis.

**Table 2: Impact on Per Capita Government Expenditure**

Variable	Minnesota			California		
	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions
Expenditure <sub>t</sub>						
Constant	279.35 (213.14)	-1028.02** (454.10)	-750.21 (679.05)	127.63 (350.34)	-2422.68*** (670.56)	-1964.77 (1439.47)
Outsider Governor <sub>t</sub>	1165.30 (1355.59)	-2280.74 (4845.58)	-2558.54 (4882.18)	4122.86 (4716.38)	6740.09* (3715.30)	6282.18 (3909.01)
Governor Republican <sub>t</sub>			-180.57 (260.36)			Omitted due to collinearity with the

						Senate Dummy
Expenditure <sub>t-1</sub>	0.97*** (0.03)			1.00*** (0.06)		
Outsider Governor <sub>t</sub> × Expenditure <sub>t-1</sub>	-0.15 (0.22)			-0.59 (0.65)		
Per Capita RGDP <sub>t-1</sub>		0.15*** (0.01)	0.15*** (0.01)		0.18*** (0.01)	0.16*** (0.03)
Outsider Governor <sub>t</sub> × RGDP <sub>t-1</sub>		0.05 (0.10)	0.05 (0.10)		-0.13* (0.07)	-0.11 (0.07)
Senate <sub>t</sub>			-171.45 (403.81)			-136.28 (436.29)
House/Assembly <sub>t</sub>			-192.77 (206.07)			362.45 (260.08)
R <sup>2</sup>	0.9732	0.9221	0.9324	0.9510	0.9182	0.9264
Number of Observations	26	26	26	26	26	26
Durbin-Watson d- statistic(k=4 or 7, n=26)	2.1972	0.9859	1.3294	1.8157	0.8302	0.9604

\*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.

Table 3 provides estimates of the three models with real per capita state deficits as the dependent variable.<sup>17</sup> Columns 1 and 4 report estimates of the inertial model for Minnesota and California. Columns 2 and 5 report the median voter model estimates, and Column 3 and 6 report the institution-augmented median voter model estimates. All three models account for most of the variation in per capita state deficits in Minnesota and California. None of the estimates support the “governors matter” hypothesis. There is no evidence of discontinuities in per capita state deficits or in the responsiveness of government that can be attributed to “outsider” governors.

<sup>17</sup> Deficit per capita are calculated as the difference between real expenditures per capita and real taxes per capita.

**Table 3: Impacts on Per Capita Government Deficit**

Variable	Minnesota			California		
	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions
Deficit <sub>t</sub>						
Constant	225.07 (200.46)	-1656.21*** (544.95)	-1269.24 (836.90)	226.31 (277.32)	-2854.13*** (888.61)	-3204.93 (1968.64)
Outsider Governor <sub>t</sub>	-267.17 (934.76)	-6750.87 (5815.07)	-7137.85 (6017.02)	2096.163 (1409.32)	7364.51 (4923.37)	7715.31 (5346.02)
Governor Republican <sub>t</sub>			-163.97 (320.87)			Omitted due to collinearity with the Senate Dummy
Deficit <sub>t-1</sub>	0.92*** (0.07)			0.96*** (0.09)		
Outsider Governor <sub>t</sub> × Deficit <sub>t-1</sub>	0.24 (0.37)			-0.55 (0.36)		
Per Capita RGDP <sub>t-1</sub>		0.09*** (0.01)	0.09*** (0.01)		0.12*** (0.02)	0.13*** (0.05)
Outsider Governor <sub>t</sub> × RGDP <sub>t-1</sub>		0.13 (0.12)	0.14 (0.12)		-0.13 (0.09)	-0.14 (0.10)
Senate <sub>t</sub>			-291.16 (497.68)			-347.21 (596.67)
House/Assembly <sub>t</sub>			-112.67 (253.97)			333.06 (355.69)
R <sup>2</sup>	0.8937	0.7647	0.7847	0.8770	0.7607	0.7709
Number of Observations	26	26	26	26	26	26
Durbin-Watson d-statistic(k=4 or 7, n=26)	1.5686	0.9388	1.0936	1.0901	0.8392	0.9184

Significance Measures: \*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively.

Standard errors are in parentheses.

## Regional Panel Estimates of Fiscal Policies

State level estimates of the factors that contribute to public policy may be deemed superior to other cross-sectional or pooled approaches because every state's political system and culture includes unique features that affect both trends and the sensitivity of policy choices to changes in political conditions. However, a state by state approach limits the sample size, which can generate higher standard errors than feasible with other estimation strategies. It is possible that outsider governor effects exist, but that the small samples used in our single state estimates generate unnecessarily large standard errors for the coefficient estimates and so reduce prospects for finding statistically significant effects. To explore this possibility, we assembled regional panels for California and Minnesota, consisting of one of those states and four surrounding states. The states in these regional panels have similar histories, ethnicities, weather, and geography and thus are likely to have more or less similar political cultures.

The adjacent first ring states for Minnesota are Wisconsin, Iowa, South Dakota, and North Dakota. The adjacent first ring states for California are Arizona, Nevada, Oregon, and Washington. Within the upper midwestern panel, Jesse Ventura was the only independent candidate elected to the governorship. Within the western panel, Arnold Schwarzenegger was the only governor elected through a recall election. Thus, both governors are unique for their respective panels. The tables reported below and in the appendix provide evidence that these panels are distinct from one another in that there are statistically significant differences in income elasticities and other parameter estimates across the two regions. (See Table 9 of the appendix.)

Our first panel estimation strategy is similar to that used for the single-state estimates, but includes state fixed effects ( $S_i$ ) and year fixed effects ( $T_t$ ). The state fixed effects account for stable unmodeled differences among states and the year fixed effects account for common random macroeconomic and macropolitical shocks that might affect political deliberations within all states in a given year. The fixed-effect inertial model for the Minnesota and California panels is:

$$G_{it} = \alpha + \beta_1 G_{it-1} + \beta_2 Governor_{it} + \beta_3 Governor_{it} \times G_{it-1} + S_i + T_t + \mu_{it} \quad (4)$$

with  $S_i$  being the state fixed effect and  $T_t$  being a year fixed effect. The fixed effects median voter model is:

$$G_{it} = \alpha + \beta_1 Y_{it-1} + \beta_2 \text{Governor}_{it} + \beta_3 \text{Governor}_{it} \times Y_{it-1} + S_i + T_t + \mu_{it} \quad (5)$$

The fixed-effects median voter model with institutions is:

$$G_{it} = \alpha + \beta_1 Y_{it-1} + \beta_2 \text{Governor}_{it} + \beta_3 \text{Governor}_{it} \times Y_{it-1} + \beta_4 \text{GovernorRepublican}_{it} + \beta_5 \text{Senate}_{it} + \beta_6 \text{House/Assembly}_{it} + S_i + T_t + \mu_{it} \quad (6)$$

Table 4 reports panel estimates of the autoregressive, median voter, and augmented median voter models of real state per capita expenditure models. The constant term  $\alpha$  is not reported in the table, because it is now accounted for by the unreported fixed effects terms. The ordering of the models is the same as that in the previous tables. The results for the upper Midwest panel are very similar to the Minnesota estimates of Table 2. There is no evidence of discontinuity induced by its outsider governor, and only very modest evidence of institutional and partisan effects. With respect to the western panel, we now find evidence of an outsider governor in the autoregressive model, but not the other models. In the autoregressive model for the western panel, there is a jump in California's average expenditures per capita, but a reduction in trend expenditures. This effect does not survive the shift to the median voter models, and so likely reflects differences in California politics that the fixed effects do not fully account for.

We also find evidence of significant partisan and institutional effects in the California panel. Western states with Republican governors associated with systematically lower expenditures than Democratic governors in the period of interest. Partisan and institutional effects are evident, as implied by the significance of binary variables for state senate or house controlled by the same party as the governor. All three models account for most of the variation in state expenditures within the two panels.

**Table 4: Impact on Government Expenditure Per Capita (Panel Data with First Ring States)**

Variable	Minnesota Panel			California Panel		
	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions
Expenditure <sub>t</sub>						
Outsider Governor <sub>t</sub>	1094.88 (1476.80)	-1918.77 (4057.57)	-1968.56 (4021.65)	8220.03** (3802.44)	-1071.28 (4949.75)	-463.39 (3847.879)
Governor Republican <sub>t</sub>			-81.58 (66.28)			-576.39*** (84.94)
Expenditure <sub>t-1</sub>	0.90*** (0.06)			0.92*** (0.04)		
Outsider Governor <sub>t</sub> × Expenditure <sub>t-1</sub>	-0.15 (0.24)			-1.16** (0.53)		
RGDP <sub>t-1</sub>		0.07*** (0.01)	0.07*** (0.01)		0.06*** (0.01)	0.04*** (0.01)
Outsider Governor <sub>t</sub> × RGDP <sub>t-1</sub>		0.04 (0.08)	0.04 (0.08)		0.03 (0.09)	0.02 (0.07)
Senate <sub>t</sub>			-163.03** (76.26)			-165.19** (71.58)
House/Assembly <sub>t</sub>			71.47 (65.42)			127.53* (68.45)
State Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
R <sup>2</sup>	0.6820	0.4540	0.4802	0.8299	0.2028	0.5347
Number of Observations	130	130	130	130	130	130

\*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.

Table 5 reports panel estimates for real state per capita deficits (with state and year fixed effects). The ordering of the models is the same as that in the previous tables. The results for the Minnesota panel are similar to those of the Minnesota estimates of Table 3. There is no evidence of



discontinuity induced by Minnesota’s outsider governor in the upper midwestern panel, but there is evidence that institutions and party affect the magnitude of state deficits per capita. Deficits decline with republican governors and state senates of the same party as a state’s governor.

With respect to the western panel, we again find evidence of discontinuities in the autoregressive model, but not in the median voter–based models. There is also evidence of partisan/institutional effects on state per capita deficits in the California panel. Western states with republican governors also have systematically lower deficits than those with democratic governors in the period of interest. This effect is reinforced by the support of a state senate controlled by the same party, although reduced by a same party state house. The need to compromise evidently induced somewhat greater fiscal balance.

The negative coefficient found for the effect of above average state income on deficits suggests that states in the upper Midwest base expenditures on projected economic conditions, rather than year-to-year fluctuations in income. Deficits thus fall during periods of relatively high income. This interpretation is more clearly evident in the next series of estimates using a difference in difference estimation strategy. The positive sign found for the Western panel suggests that deficit finance is a routine part of their state’s fiscal planning. All three models account for most of the variation in state expenditures within their respective panels.

**Table 5: Impact on Government Deficit Per Capita (Panel Data with First Ring States)**

Variable	Minnesota Panel			California Panel		
	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions	Auto-regressive Model	Median Voter Model	Median Voter Model with Institutions
Outsider Governor	61.77 (1006.36)	-4457.76 (4465.92)	-4556.82 (4242.98)	1677.39* (925.64)	862.41 (4323.30)	1264.46 (3670.97)
Governor Republican <sub>t</sub>			-233.96*** (69.93)			-379.23*** (81.04)
Deficit <sub>t-1</sub>	0.91*** (0.07)			0.87*** (0.05)		

Outsider Governor <sub>t</sub> × Deficit <sub>t-1</sub>	0.02 (0.40)			-0.46** (0.23)		
RGDP <sub>t-1</sub>		-0.10*** (0.01)	-0.10*** (0.01)		0.04*** (0.01)	0.03*** (0.01)
Outsider Governor <sub>t</sub> × RGDP <sub>t-1</sub>		0.09 (0.09)	0.09 (0.09)		-0.01 (0.08)	-0.02 (0.06)
Senate <sub>t</sub>			-202.81** (80.46)			-167.44** (68.29)
House/Assembly <sub>t</sub>			166.96** (69.02)			154.33** (65.31)
State Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
R <sup>2</sup>	0.6204	0.5848	0.6368	0.7509	0.1367	0.3989
Number of Observations	130	130	130	130	130	130

\*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.

## Panel Estimates of Difference in Difference using Synthetic Controls

We next explore whether the evidence provided for the single state and panel regression estimates is robust to other estimation strategies. A natural alternative to the regression discontinuity approach used to this point is the difference-in-difference approach. We use two implementations of the synthetic control methodology as our reference states (Abadie and Gardeazabal, 2003, Abadie, Diamond, and Hainmueller 2015). In the first series of estimates, we use panel averages as the synthetic control—which is to say, we create a hypothetical average panel state that can be used as the panel norm, or as a control to isolate the treatment effect generated by an unusual governor. We estimate differences between state *i*'s expenditures in year *t* and the panel average for that year. We focus on the institution-augmented median voter model. An outsider governor effect will generate larger deviations from the panel norm than can be accounted for by income, partisanship, and institutional effects. We use differences between the average real per capita state gross product in the panel and actual state per capita gross product as the income explanatory variable.

Table 6 summarizes the results for the two variables of interest for each panel. Again, the models account for most of the variation in state per capita expenditures and deficits. Again, there is no evidence of discontinuities generated by “outsider” governors in the upper mid-West panel. However, we find some evidence of an outsider effect for the California panel, one that suggests a very large increase in per capita expenditures and per capita deficits, although the coefficient is significant at only the 10% level. Given the other results, we believe that this result is spurious and reflects problems with pooling states in the Western panel. (California exhibits significantly higher changes in voter demands for government services for changes in income than other states in the panel. See tables 2 and 4.)

**Table 6: Impact on Government Expenditures and Deficits Per Capita  
(Difference in Difference re Panel Averages, Pooled Data from First Ring States)**

Variable	Minnesota Panel		California Panel	
	Median Voter Per Capita Expenditure Average Difference	Median Voter Per Capita Deficit Average Difference	Median Voter Per Capita Expenditure Average Difference	Median Voter Per Capita Deficit Average Difference
	Outsider Governor <sub>t</sub>	-501.62 (2447.99)	-1924.95 (2588.00)	4775.65* (2478.76)
Governor Republican <sub>t</sub>	-81.63 (66.35)	-234.01*** (70.14)	-586.78*** (84.06)	-388.58*** (80.29)
RGDP Average Difference <sub>t-1</sub>	0.07*** (0.01)	-0.10*** (0.01)	0.04*** (0.01)	0.03*** (0.01)
Outsider Governor <sub>t</sub> × RGDP Average Difference <sub>t-1</sub>	0.06 (0.31)	0.27 (0.33)	-0.84 (0.52)	-0.76 (0.49)
Senate <sub>t</sub>	-162.97** (76.34)	-202.75** (80.71)	-163.94** (70.56)	-164.56** (67.40)
House/Assembly <sub>t</sub>	71.44 (65.49)	166.93** (69.23)	114.69* (67.93)	143.76** (64.88)
State Fixed Effects	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓

R <sup>2</sup>	0.4791	0.6346	0.5470	0.4134
Number of Observations	130	130	130	130

Significance Measures: \*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.

Our last series of estimates uses a more sophisticated method for creating a hypothetical reference state or synthetic control. We create a synthetic control for each state by estimating annual values of each state’s real per capital expenditures and deficits as a function of the other states in their panel’s fiscal outcomes (real per capita expenditures, real per capita deficits). Each state thus has its own synthetic control, which is, in effect, a BLUE weighted average of the fiscal outcomes in the other states in their panel. The weights vary by state and panel, and are reported in Table 8 of the appendix.

We again focus on the institution-augmented median voter model. Differences between each state’s actual and its predicted per capita expenditures and per capita deficits are used as the relevant dependent variables. In effect, the differences are now state-level residuals with respect to their own synthetic control. We use a similar difference between the synthetic control’s state per capita income and actual income in the state of interest as the income variable. The estimates look for unexplained effects on the residuals associated with the tenures of the two outsider governors relative to that which would have occurred without them, as in conventional time-series applications of the synthetic control methodology. Outsider-governor effects on fiscal outcomes in their respective states should be highlighted by this approach. This estimation strategy is applied to the upper Mid-Western and Western Panels and to the states of California and Minnesota alone.

Table 7 reports the results for each panel and the two states of interest. The synthetic controls for each panel account for most of the predictable path of real per capita state expenditures and deficits in each state; and thus, the explanatory power of the models fall significantly. We find second-order effects for changes for average income shocks on real state per capita expenditures, but not deficits, which suggests that state expenditures are normally adjusted to account for past tax revenue shocks (possibly generated by unexpected changes in average income in the previous year). We also find second-order effects from same party assemblies with respect to expenditures in the

upper mid-West, but not in the Western panel. There is, however, no evidence of a systematic effect of outsider governors on real per capita expenditures or deficits.

**Table 7: Impact on Government Expenditures and Deficits Per Capita  
(Difference in Difference re Modified Synthetic Control, Panel Data with First Ring States)**

Variable	Minnesota		California		Minnesota Panel		California Panel	
	Per Capita Expenditure Weighted Difference	Per Capita Deficit Weighted Difference	Per Capita Expenditure Weighted Difference	Per Capita Deficit Weighted Difference	Per Capita Expenditure Weighted Difference	Per Capita Deficit Weighted Difference	Per Capita Expenditure Weighted Difference	Per Capita Deficit Weighted Difference
Constant	-188.19* (89.98)	-139.92 (106.26)	184.26 (210.28)	14.09 (214.97)				
Outsider Governor <sub>t</sub>	139.91* (111.66)	100.48 (131.87)	-28.99 (147.54)	56.11 (150.84)	5.99 (108.32)	-200.19 (194.26)	-132.19 (169.36)	9.55 (155.36)
Governor Republican <sub>t</sub>	172.25* (96.58)	183.05 (114.05)	-326.36* (188.59)	-115.22 (192.80)	-14.38 (46.46)	-17.63 (83.32)	-123.74* (69.39)	-103.60 (63.65)
RGDP Weighted Difference <sub>t-1</sub>	-0.02 (0.04)	-0.03 (0.05)	0.08** (0.03)	0.06* (0.03)	0.02*** (0.01)	-0.005 (0.014)	0.03* (0.01)	0.01 (0.01)
Outsider Governor <sub>t</sub> × RGDP Weighted Difference <sub>t-1</sub>	-0.11 (0.10)	-0.04 (0.12)	0.36 (0.30)	0.31 (0.30)	-0.14 (0.14)	-0.12 (0.25)	0.37 (0.36)	0.38 (0.33)
Senate <sub>t</sub>	171.71 (132.67)	247.09 (156.68)	Omitted due to collinearity	Omitted due to collinearity	-35.32 (53.42)	50.75 (95.81)	0.53 (56.92)	4.36 (52.22)
House/Assembly <sub>t</sub>	117.86 (81.28)	-70.87 (95.99)	36.08 (202.10)	58.35 (206.61)	94.99** (45.73)	-45.58 (82.00)	-19.13 (57.25)	-4.32 (52.52)
State Fixed Effects					✓	✓	✓	✓
Year Fixed Effects					✓	✓	✓	✓
R <sup>2</sup>	0.3525	0.1920	0.4270	0.2469	0.1384	0.0178	0.1047	0.0655
Number of Observations	26	26	26	26	130	130	130	130

Significance Measures: \*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.

## Conclusions

Most of the statistical evidence developed in this paper supports the institutionally induced equilibria hypothesis. We find little evidence that unusual persons who rise to governorships through unorthodox career paths and elected through unusual elections have unusual effects on state budgets or borrowing. If we assume that the results as a whole characterize a likelihood function defined across models and estimation strategies, we can conclude the institutionally induced equilibria hypothesis is more likely to be correct than the governors matter hypothesis, at least for the states and time period explored. This is not to say that unusual governors have no unusual effects on the policies directly controlled by them, but it is to say that these unusual governors did not have a statistically detectable impact on their state's overall fiscal policies. We do, as in other studies, find evidence that the party affiliation of office holders matter. We also find significant partisan and institutional effects associated with the state legislatures that are consistent with an institutionally induced equilibrium model of policy formation. It is also possible that they had unusual effects on other policies than the ones studied, which tend to be policy areas in which governors are most constrained.

Institutions and electoral outcomes evidently affect fiscal policies, but not the characteristics of the governors elected. This contrasts with results reported in several studies, including one on the U. S. presidency by one of authors of this paper (Congleton and Zhang 2013). There are several explanations for this. First, our principle interest was in the institutional stability hypothesis and so our estimation strategy differed from studies of leadership characteristics. We did not look for characteristics that might be associated with more effective or influential leaders, as for example Jochimsen and Thomasius (2014) do for lander finance ministers. Instead, we attempt to determine whether two highly unusual governors have an unusual impact. This approach is less apt to conflate differences in regional political culture and voting patterns, because it is focused on unique transitions and personalities that may be taken to be surprise results and so not incorporated into the pre-election expectations of voters or legislators. Second, we focus on the divided governmental structures of the United States, which tend to provide the chief executive and associated cabinet ministers with less control over expenditures and deficits than many European governments exhibit. If institutions matter, as is often found in international studies, some of these

differences will be evident as differences in leadership effects. Our results suggest that although American state governments have more authority than their European counterparts, the divided nature of state governments combined with their budgetary processes tend to reduce the impact of state governors, relative to their European counterparts.

Of secondary importance for the purposes of this paper—but perhaps of greater importance for the literature on international, state, and local finance—is that the parameter estimates differed significantly across states and panels. This calls into question the routine pooling of disparate regions and governments. For example, we found significant partisan effects only on deficits in the upper Midwest panel, but partisan effects on both expenditures and deficits for the Western panel after accounting for state and time fixed effects. Moreover, the estimated effects of average income on state expenditures differed by more than 2 standard deviations across states and panels. Together these results suggest that the effects of partisan organizations, political institutions, and political culture differ significantly across regions. Regional political cultures evidently differ within the U. S. in ways that fixed effects do not fully capture.

These secondary results suggest that the use of pooled national or international data sets for these sorts of studies is likely to generate parameter estimates that fail to characterize individual countries, states, or subregions. Fixed state and time effects do not fully adjust for subtle differences in institutions or voter preferences for types of leaders nor for the different constraining effects of minor variations in political institutions. In light of this finding, international studies of leadership, although of interest, should be interpreted with a variety of caveats not always mentioned by their authors. International studies benefit from larger samples and do provide insights into differences among countries, as in the Jones and Olken (2005), Dreher et al. (2009), Besely et al. (2011), and Moessleringer (2014) studies, but by largely ignoring subtle differences among institutions and political cultures, they tend to have biased (roughly averaged) estimates of model parameters, rather than unbiased ones. The latter tends to undermine many of the statistical inferences made, although such studies nonetheless still cast useful light on the phenomena analyzed by identifying robust general tendencies.

The support provided in this study for the institutionally-induced-equilibria hypothesis is limited to the institutional setting explored and policies analyzed. State governments in the United

States tend to have more fiscal discretion than most other sub-national governments, but their executive branches are subject to more procedural constraints than confronted by most European subnational leaders. Together with other national studies similar to ours, our results support the institutions matter hypothesis both in the U.S. context and across countries. The effects of individuals holding a nation's or region's most powerful office are evidently greater in parliamentary systems than in ones similar to those in the United States where fiscal authority is more equally divided between the executive and parliament.<sup>18</sup>

Overall, our statistical analysis suggests that any unique men and women who rise to high office in the United States are not likely to have effects on fiscal policies that differ significantly from those of more conventional members of their political parties—other things being equal.

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<sup>18</sup> For overviews of how differences in democratic institutions affect public policies, see Congleton and Swedenberg (2006). For analysis of the U.S. institutions, see Buchanan and Tullock (1962) or Tsebelis (2002) for a more general analysis of how veto players affect public policy.



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## Appendix

Table 8: OLS Weights for GDP Per Capita, Government Expenditure Per Capita and Deficit Per Capita When Constructing the “Synthetic Counterfactual” (First Ring States)

Minnesota Panel					California Panel				
State	Donor States	GDP Per Capita	Expenditure Per Capita	Deficit Per Capita	State	Donor States	GDP Per Capita	Expenditure Per Capita	Deficit Per Capita
MN	IA	-0.0466 (0.1707)	0.6605** (0.2845)	0.1036 (0.2632)	CA	AZ	0.5300 (0.3199)	0.9663*** (0.1965)	0.4077* (0.2097)
	ND	-0.0196 (0.0359)	-0.1856** (0.0887)	0.1437*** (0.0462)		NV	0.0070 (0.1762)	-0.3839 (0.2315)	-0.3269* (0.1734)
	SD	0.1053 (0.0973)	0.0234 (0.1771)	0.0252 (0.1547)		OR	0.2544* (0.1317)	0.2547 (0.1828)	-0.2141 (0.2026)
	WI	1.1046*** (0.1227)	0.6646*** (0.1922)	0.6787*** (0.1976)		WA	0.3581** (0.1702)	0.3626 (0.3072)	1.1478*** (0.3073)
	$R^2$	0.9997	0.9995	0.9976		$R^2$	0.9988	0.9981	0.9946
IA	MN	-0.0693 (0.2539)	0.2875** (0.1238)	0.0646 (0.1641)	AZ	CA	0.2012 (0.1214)	0.5305*** (0.1079)	0.3463* (0.1781)
	ND	0.0966** (0.0392)	0.2636*** (0.0324)	-0.0541 (0.0420)		NV	0.4226*** (0.0634)	0.3914** (0.1621)	0.1519 (0.1688)
	SD	0.2833** (0.1063)	0.1284 (0.1138)	0.3897*** (0.0913)		OR	0.1185 (0.0839)	0.0279 (0.1409)	0.3134* (0.1797)
	WI	0.7048** (0.2823)	0.2284 (0.1489)	0.6303*** (0.1398)		WA	0.0757 (0.1134)	-0.1318 (0.2328)	-0.0847 (0.3586)
	$R^2$	0.9995	0.9997	0.9987		$R^2$	0.9993	0.9980	0.9911
ND	IA	2.1621** (0.8775)	2.8134*** (0.3463)	-1.2447 (0.9664)	NV	AZ	1.5589*** (0.2339)	0.5167** (0.2140)	0.2239 (0.2488)
	MN	-0.6529 (1.1955)	-0.8622** (0.4119)	2.0621*** (0.663)		CA	0.0098 (0.2467)	-0.2783 (0.1678)	-0.4093* (0.2171)
	SD	1.0899* (0.5287)	0.0287 (0.3819)	1.6273*** (0.4783)		OR	-0.4820*** (0.1347)	-0.4852*** (0.1266)	-0.6787*** (0.1840)
	WI	-1.4328 (1.4759)	-0.6113 (0.4947)	-1.2661 (0.8820)		WA	0.1388 (0.2180)	1.1170*** (0.1353)	1.6368*** (0.2710)
	$R^2$	0.9891	0.9979	0.9736		$R^2$	0.9983	0.9974	0.9829
SD	IA	0.8325** (0.3124)	0.4087 (0.3620)	1.1346*** (0.2657)	OR	AZ	0.6730 (0.4767)	0.0610 (0.3080)	0.3726* (0.2137)
	MN	0.4601 (0.4252)	0.0324 (0.2453)	0.0457 (0.2807)		CA	0.5485* (0.2840)	0.3058 (0.2194)	-0.2162 (0.2046)
	ND	0.1431* (0.0694)	0.0085 (0.1138)	0.2057*** (0.0605)		NV	-0.7421*** (0.2074)	-0.8034*** (0.2096)	-0.5475*** (0.1485)
	WI	-0.5450 (0.5336)	0.3719 (0.2679)	-0.4307 (0.3148)		WA	0.4808* (0.2538)	1.1979*** (0.2404)	1.4273*** (0.2543)

	$R^2$	0.9984	0.9988	0.9959		$R^2$	0.9965	0.9974	0.9959
WI	IA	0.3025** (0.1212)	0.4062 (0.2649)	0.7445*** (0.1651)	WA	AZ	0.2511 (0.3761)	-0.1042 (0.1842)	-0.0286 (0.1210)
	MN	0.7053*** (0.0783)	0.5145*** (0.1488)	0.4996*** (0.1454)		CA	0.4509** (0.2143)	0.1575 (0.1334)	0.3289*** (0.0881)
	ND	-0.0275 (0.0283)	-0.1019 (0.0824)	-0.0649 (0.0452)		NV	0.1248 (0.1960)	0.6692*** (0.0811)	0.3747*** (0.0620)
	SD	-0.0796 (0.0779)	0.2078 (0.1497)	-0.1747 (0.1277)		OR	0.2808* (0.1482)	0.4334*** (0.0870)	0.4050*** (0.0721)
	$R^2$	0.9998	0.9996	0.9984		$R^2$	0.9986	0.9991	0.9985
Number of Observ- ations		27	27	27			27	27	27

Significance Measures: \*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.

Table 9: Pooled panel with Ventura and Schwarzenegger (10 states, levels and natural logs)

Pooled Panel (level)			Pooled Panel (natural log)		
Variable	Median Voter Model Per Capita Expenditure	Median Voter Model Per Capita Deficit	Variable	Median Voter Model Per Capita Expenditure	Median Voter Model Per Capita Deficit
$G_t$			$\ln G_t$		
Outsider Governor <sub>t</sub>	-4362.45*** (1476.45)	-3461.11** (1624.73)	Outsider Governor <sub>t</sub>	-7.352*** (2.732)	-12.250** (6.154)
Governor Republican <sub>t</sub>	-323.59*** (48.78)	-398.14*** (53.68)	Governor Republican <sub>t</sub>	-0.064*** (0.008)	-0.148*** (0.019)
GDP <sub>t-1</sub>	0.069*** (0.006)	-0.042*** (0.007)	$\ln GDP_{t-1}$	0.414*** (0.049)	-0.723*** (0.110)
Outsider Governor <sub>t</sub> × GDP <sub>t-1</sub>	0.087*** (0.027)	0.068** (0.030)	Outsider Governor <sub>t</sub> × $\ln GDP_{t-1}$	0.679*** (0.251)	1.130** (0.565)
Senate <sub>t</sub>	-186.01*** (46.48)	-143.74*** (51.14)	Senate <sub>t</sub>	-0.038*** (0.008)	-0.060*** (0.018)
House/Assembly <sub>t</sub>	140.98*** (44.85)	200.94*** (49.35)	House/Assembly <sub>t</sub>	0.020** (0.008)	0.064*** (0.017)
Western State	Omitted due to collinearity	Omitted due to collinearity	Western State	Omitted due to collinearity	Omitted due to collinearity
Western State × GDP <sub>t-1</sub>	-0.021*** (0.006)	0.017*** (0.006)	Western State × $\ln GDP_{t-1}$	-0.123*** (0.042)	0.072 (0.094)
State Fixed Effects	✓	✓	State Fixed Effects	✓	✓
Year Fixed Effects	✓	✓	Year Fixed Effects	✓	✓
R <sup>2</sup>	0.5059	0.3159		0.4622	0.3296
Number of Observations	260	260		260	260

Significance Measures: \*\*\*, \*\*, \* indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are in parentheses.